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| 10/607,984 | 06/30/2003 | Kang Soo Seo | 1740-000020/US | 6983 |
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| EXAMINER | | | | |
| ZHAO, DAQUAN | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/607,984

Applicant(s)

SEO ET AL.

Examiner

DAQUAN ZHAO

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7, 8, 11, 12 and 14-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8, 11, 12 and 14-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/28/2008 has been entered.

Response to Arguments

2. Applicant's arguments filed 2/28/2008 have been fully considered but they are not persuasive.

3. Applicant argues, in pages 9-12 of the remark, claim 1 of the instant application is analogous to the claims in In re Lowry. The examiner disagrees. Claim 1 of In re Lowry recited: "a memory for storing data for access by **an application program being executed on a data processing system**, comprising: ...". It is clearly shown that the claim of In re Lowry has a data processing system to execute an application program, wherein the application program is the functional descriptive material. However, claim 1 of the instant application does not have any functional descriptive material and does not have anything to execute a function. Claim 1 of the instant application recites "a computer readable medium having a data structure for managing reproduction of at least video data...". This is intended use because the body of the claim do not have any steps about the "**reproduction** of at least video data".

4. Applicant argues, in pages 13-14, Kikuchi fails to teach "said angle change information indicates whether an angle change is permitted or not, and the angle change information further indicates where an angle change is permitted". The examiner disagrees. Figure 37, step s23 and figure 40 and column 27, lines 5-44 clearly shown if there is angle data present, the system of Kikuchi et al then gets the "next cell address" (figure 40, s43) to perform angle change at the "next cell address", which is permitting the angle change when there is angle data. If there's no angle data, a message "there is no angle to be change" indicates the angle change is not permitted. Therefore, the examiner considers "The presence/absence of angle has been given as angle information (NSULS_ANGLE, SML_AGLI)" teaches "said angle change information indicates whether an angle change is permitted or not, and the angle change information further indicates where an angle change is permitted".

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-5, 7-8, 11, 12, 14 and 15 are rejected under 35 U.S.C. 101 because claim 1 is directed to a recording medium have a "data structure" of angle change recording information within at least one navigation area. The "data structure" recites in claim 1 does not meet the requirement of the IEEE Standard Dictionary of Electrical and Electronics, which define the "data structure" as a physical or logical relationship among

data elements, designed to support specific data manipulation function. Placing the angle change recording information in the navigation area is merely arrangement of data, which is nonfunctional descriptive material. When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”). Such a result would exalt form over substance. In *re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) (“[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final analysis under § 101, the claimed invention, as a whole, must be evaluated for what it is.”) (quoted with approval in *Abele*, 684 F.2d at 907, 214 USPQ at 687). See also *In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) (“form of the claim is often an exercise in drafting”). Thus, nonstatutory music is not a computer component, and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under the copyright law.

Claims 2-5, 7-8, 11, 12, 14 and 15 are also affected.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 5, 7, 8, 11, 14, 16, 17, 18, 19, 20 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kikuchi et al (US 5,870,523).

For claim 1, Kikuchi et al teach a computer readable medium (e.g. recording medium-> optical disk in figure 3) having a data structure for managing reproduction of at least video data having multiple reproduction paths recorded on the computer readable medium (e.g. figure 30, column 19, lines 19-56, multiple angle reproduction of AGL-C_B#1, AGL_C_B#, AGL_C_B#9), comprising: at least one navigation area storing navigation management information for managing reproduction of the video data having multiple reproduction paths recorded on the computer readable medium, said navigation management information having angle change recording information corresponding to each of a plurality of video data blocks (e.g. column 18, lines 44- column 19, line 4, angle change information is in the Playback Control Information data, wherein the PCI is navigation data, also see figures 27-29, and also see figure 25, column 18, lines 5-26 for data structure of the NAV).

Kikuchi et al also teach "said angle change information indicates whether an angle change is permitted or not, and the angle change information further indicates

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where an angle change is permitted. (Figure 37, step s23 and figure 40 and column 27, lines 5-44 clearly shown if there is angle data present, the system of Kikuchi et al then gets the "next cell address" (figure 40, s43) to perform angle change at the "next cell address", which is permitting the angle change when there is angle data. If there's no angle data, a message "there is no angle to be change" indicates the angle change is not permitted. Therefore, the examiner considers "The presence/absence of angle has been given as angle information (NSULS_ANGLE, SML_AGLI)" as the claimed "said angle change information indicates whether an angle change is permitted or not, and the angle change information further indicates where an angle change is permitted")

Claims 16 and 17 are rejected for the same reasons as discussed in claim 1 above.

Claim 18 and 19 are rejected for the same reasons as discussed in claim 1 above with further limitation: a driver for driving an optical reproducing device to record data on the recording medium (e.g. figure 1, disk drive section 30); and a controller (e.g. figure 1, system CPU section 50).

For claim 4, Kikuchi et al teach navigation management information includes a start point of a presentation time stamp, said start point of the presentation time stamp corresponding to one of said plurality of video data blocks (e.g. column 18, line 44-column 19, line 3).

For claim 5, Kikuchi et al teach navigation management information includes source packet identification information for corresponding one of said plurality of video blocks (e.g. column 20, lines 14-23, DSI contains ID for VOB).

For claim 7, Kikuchi et al teach navigation management information includes an indicator for indicating a stream type information of the video data, said indicator corresponding to one of said plurality of video data block (e.g. figure 28, VOBU_CAT in the PCI_GI indicates the category of the VOBU, wherein the PCI_GI is in the PCI as shown in figure 27).

For claim 8, Kikuchi et al teach navigation management information includes offset information regarding I-picture pointing to an address of a last I-picture contained, said offset information corresponding to one of said plurality of video data blocks (e.g. column 20, lines 14-23, VOBU_IP_EA contains the last data item for the first I picture in the VOB unit).

For claim 11, Kikuchi et al teach angel change information corresponding to each of a plurality of video data blocks is included in the entry point map (e.g. column 20, lines 35-65, figure 29 shows the destination address of angle cell number, which is an entry of the angle data).

For claim 14, Kikuchi et al teach video data having multiple reproduction paths are recorded in the unit of angle block which is referred by angel change recording information (e.g. figure 34, column 19, lines 5-16).

For claim 20, Kikuchi et al teach said controller is configured to create the navigation management information based on a reference information received via an interface, the navigation management information including an entry point map for accessing the corresponding video block, the entry point map having one or more entry points corresponding to one of said plurality of video data blocks(e.g. e.g. column 12,

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lines 52-63, and figure 29, NSLS_ANGLI has the map for "destination address of Angle cell number", wherein the "destination address corresponds to the "entry point" for the angle cell).

For claim 25, Kikuchi et al teach controller is configured to control the reproducing unit to delay the execution of the angle change until a reproducing position reaches to the end of the angle block or ignore the request for angle change if the request for angle change is not permitted, while said controller is configured to control the reproducing unit to execute the angle change if the request for angle change is permitted (e.g. column 27, lines 45-59).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 3, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al (US 5,870,523) as applied to claims 1, 4, 5, 7, 8, 11, 14, 16, 17, 18, 19, 20 and 25 above, and further in view of Tsumagari et al (US 6,556,774 B2).

For claim 2, Kikuchi et al fail to teach the navigation management information includes an entry point map. Tsumagari et al teach the navigation management

information includes an entry point map (e.g. column 18, lines 58-60, and column 19, lines 26-67, also see figure 25, the M_C_EPI is considered to be the entry point map). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Tsumagari et al into the teaching of Kikuchi et al to reduce the data processing time by having the entry point information in the navigation pack since these control information can be extracted all at once.

For claim 3, Tsumagari et al teach navigation management information includes an entry point corresponding to one of said plurality of video blocks(e.g. column 18, lines 58-60, and column 19, lines 26-67, also see figure 25, the M_C_EPI is considered to be the entry point map).

For claim 23, Kikuchi et al teach angle change information, wherein controller analyze the angle change information if the angle change is requested via an interface, and control the reproducing unit to selectively change the reproduction path based on the analyzed angle change information, the angle change information including at least one indicator for indicating whether the angle change is permitted or not(e.g. e.g. column 12, lines 52-63, and figure 29, NSLS_ANGLI has the map for "destination address of Angle cell number", wherein the "destination address corresponds to the "entry point" for the angle cell; Figure 37, step s23 and figure 40 and column 27, lines 5-44 clearly shown if there is angle data present, the system of Kikuchi et al then gets the "next cell address" (figure 40, s43) to perform angle change at the "next cell address", which is permitting the angle change when there is angle data. If there's no angel data, a message "there is no angle to be change" indicates the angle change is not permitted.

Therefore, the examiner considers "The presence/absence of angle has been given as angle information (NSULS_ANGLE, SML_AGLI)" teaches "said angle change information indicates whether an angle change is permitted or not, and the angle change information further indicates where an angle change is permitted").

Claim 24 is rejected for the same reasons as discussed in claim 23 above.

4. Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al (US 5,870,523) as applied to claims 1,4, 5, 7, 8, 11, 14, 16, 17, 18,19, 20 and 25 above, and further in view of Sato et al (US 5,884,004).

See teaching of Kikuchi et al above.

For claim 12, Kikuchi et al fail to teach the address of the last interleaved video unit. Sato et al teach the address of the last interleaved video unit (e.g. column 43, line 59- column 54, line 19). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Sato et al into the teaching of Kikuchi et al to change the angle scene without reading unnecessary angle information (e.g. column 54, lines 1-19).

For claim 15, Kikuchi et al each reproduction path data are recorded as one or more angle blocks and the angel blocks are interleaved (e.g. column 43, line 59- column 54, line 19).

5. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al (US 5,870,523) as applied to claims 1,4, 5, 7, 8, 11, 14, 16, 17, 18,19, 20 and 25 above, and further in view of Na et al (US 6,504,996 B1).

For claim 21, Kikuchi teach an encoder configured to encode at least video data (e.g. column 7, lines 10-12). However, Kikuchi et al fail to teach a multiplexer configured to multiplex at least video data to create a transport stream according to control information of the controller. Na et al teach a multiplexer configured to multiplex at least video data to create a transport stream according to control information of the controller (e.g. column 12, lines 44-46). It would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate the teaching of Na et al into the teaching of Kikuchi for fast and robust data transmission.

For claim 22, Na et al teach a packetizer configured to packetize the transport stream form the multiplexer into source packets in accordance with a format of an optical disk, said packetizer controlled by the controller (e.g. column 8, lines 17-29).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daquan Zhao whose telephone number is (571) 270-1119. The examiner can normally be reached on M-Fri. 7:30 -5, alt Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Thai Q, can be reached on (571)272-7382. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daquan Zhao/
Examiner, Art Unit 2621
Daquan Zhao

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621